

# Purchase Order Receipt Listing

Thursday, July 20, 2017 10:10:03 AM

All amounts are calculated in domestic currency.

All Vendors PO ID PO37040 Receipt Dates from 7/19/2017 to 7/19/2017 All Line Item Types  
All Item ID/GL/WOs All Rec. Employees All Currencies  
Grouped by Vendor ID

Purchase Order ID/ Curr Type	Line Nbr/ Insp Req	Project ID	Reference/ Description/ Cert Std	PO U/M / Stock U/M	Required Date Required Qty	Recv Date/ Recv Emp	Recv Qty (PO U/M)	Cost Per Unit/ Recv Value	Inspected Qty/ Rejected Qty (PO U/M)	MRB Qty/ MRB Reject Qty	Book Amt
Vendor ID \ Vendor Name		VU-TWMM001	TW Metals	DAS							
PO37040	1		M6061T6T0.375W.05 f 8 .000 9-89	5	7/21/2017	7/19/2017	180.0000 ✓		0.0000	0	\$0.00
USD	No		6061-T6 RD Tube f .375 x.058W m138083		180.0000	PLOU01			0.0000	0	
	2		M6061T6T0.500W.05 f 8 9-89	DAS 5	7/21/2017	7/19/2017	48.0000 ✓		0.0000	0	\$0.00
	No		6061-T6 RD Tube f .500 x.058W m138083	9-89	40.0000	PLOU01			0.0000	0	
	3		M6061T6T0.625W.04 f 9 9-89	DAS 5	7/21/2017	7/19/2017	24.0000 ✓		0.0000	0	\$0.00
	No		6061-T6 RD Tube f .625 x.049W m138083	9-89	20.0000	PLOU01			0.0000	0	
	4		M6061T6T0.625W.06 f 5 9-89	DAS 5	7/21/2017	7/19/2017	48.0000 ✓		0.0000	0	\$0.00
	No		6061-T6 RD Tube f .625 x.065W m138083	9-89	40.0000	PLOU01			0.0000	0	
	5		M6061T6T0.625W.12 f 5 9-89	DAS 5	7/21/2017	7/19/2017	48.0000 ✓		0.0000	0	\$0.00
	No		6061-T6 RD Tube f 0.625 X.125W m138083	9-89	40.0000	PLOU01			0.0000	0	
	6		M304TR0.750W.049 f 304 RD Tube .750 x f .049W 9-89	DAS 5	7/21/2017	7/19/2017	60.0000 ✓		0.0000	0	\$0.00
	No		304 RD Tube .750 x f .049W m138083	9-89	60.0000	PLOU01			0.0000	0	
	8		71401-45 PROCUREMENT QUALITY CLAUSES m138083		7/21/2017	7/19/2017	1.0000		0.0000	0	\$0.00
	No				1.0000	PLOU01			0.0000	0	

Purchase Order ID/ Curr Type	Line Nbr/ Insp Req	Project ID	Reference/ Description/ Cert Std	PO U/M / Stock U/M	Required Date Required Qty	Recv Date/ Recv Emp	Recv Qty (PO U/M)	Cost Per Unit/ Recv Value	Inspected Qty/ Rejected Qty (PO U/M)	MRB Qty/ MRB Reject Qty	Book Amt
<div>Total Received Quantity: Total Qty to Inspect (PO U/M): Total Reject Quantity: Total Receipt Value: Total Balance Due Quantity:</div>											
409.0000											
0.0000											
0.0000											
\$0.00											
0.0000											



O'Neal High-Performance Metals Group



Packing Slip

ORDER NO.: 60635888

FROM: CRAN

PAGE 1

CUST NUMBER: 1203820 NET WGT: 58.756 REQ.DATE: 07/21/17 CONFIRMED  
SOLD TO: SHIP TO:  
DART AEROSPACE LTD DART AEROSPACE LTD  
1270 ABERDEEN ST 1270 ABERDEEN ST  
HAWKESBURY ON HAWKESBURY ON  
CANADA CN K6A 1K7 ONTARIO CANADA CN K6A 1K7

SALESPERSON: DONNA SMALLEY SHIP BY: 07/17/17  
TERMS: NET 30 DAYS VIA: COMMON CARRIER  
F.O.B.: SHIPPING POINT FREIGHT: PREPAID  
CUST ORD NO.: PO37040 RELEASE NO.:  
RECEIVING PHONE:

LINE	ITEM DESCRIPTION	WIDTH	LENGTH
0001	41952 D6061-T6 3/8 OD X .058 WA	12 FT	ML

CLN#	ORD QTY	INVOICE QTY	SHIPPED QTY	WT
	180.000 FT	180.000 FT	180.000 FT	12.204

PCS  
15

\*\* 1 TEST REPORTS REQUIRED \*\*  
\*\* 1 CERTS REQUIRED \*\*

ECCN: EAR99 Export License: NLR Expiration Date: 0/00/00  
PO:49361230 HT:1180968 PC: 15 CUSTOMER QTY: 180.000 UOM FT  
MLT:UNITED STATES MFG:UNITED STATES SLB/CL:438268

LINE	ITEM DESCRIPTION	WIDTH	LENGTH
0002	42276 D6061-T6 1/2 OD X .058 WA	12 FT	ML

CLN#	ORD QTY	INVOICE QTY	SHIPPED QTY	WT
	48.000 FT	48.000 FT	48.000 FT	4.545

PCS  
4

\*\* 1 TEST REPORTS REQUIRED \*\*  
\*\* 1 CERTS REQUIRED \*\*

ECCN: EAR99 Export License: NLR Expiration Date: 0/00/00  
PO:49365548 HT:F002361250001 PC: 4 CUSTOMER QTY: 48.000 UOM FT  
MLT:UNITED STATES MFG:UNITED STATES SLB/CL:222661

LINE	ITEM DESCRIPTION	WIDTH	LENGTH
0003	42506 D6061-T6 5/8 OD X .049 WA	12 FT	ML

CLN#	ORD QTY	INVOICE QTY	SHIPPED QTY	WT
	24.000 FT	24.000 FT	24.000 FT	2.494

PCS  
2

\*\* 1 TEST REPORTS REQUIRED \*\*  
\*\* 1 CERTS REQUIRED \*\*

ECCN: EAR99 Export License: NLR Expiration Date: 0/00/00  
PO:49363158 HT:F002325380001 PC: 2 CUSTOMER QTY: 24.000 UOM FT  
MLT:UNITED STATES MFG:UNITED STATES SLB/CL:222297

Sept 7-20

THANK YOU FOR THIS ORDER

TERMS AND CONDITIONS APPLICABLE TO THE SALE OF THESE  
PRODUCTS ARE SET FORTH ON OUR WEBSITE FOR YOUR CAREFUL  
REVIEW.  
<http://www.twmetals.com/invoice-terms.html>



O'Neal High-Performance Metals Group



**Packing Slip**

ORDER NO.: 60635888

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CUST NUMBER: 1203820 NET WGT: 58.756 REQ.DATE: 07/21/17 CONFIRMED  
SOLD TO: SHIP TO:  
DART AEROSPACE LTD DART AEROSPACE LTD  
1270 ABERDEEN ST 1270 ABERDEEN ST  
HAWKESBURY ON HAWKESBURY ON  
CANADA CN K6A 1K7 ONTARIO CANADA CN K6A 1K7

SALESPERSON: DONNA SMALLEY SHIP BY: 07/17/17  
TERMS: NET 30 DAYS VIA: COMMON CARRIER  
F.O.B.: SHIPPING POINT FREIGHT: PREPAID  
CUST ORD NO.: PO37040 RELEASE NO.:  
RECEIVING PHONE:

LINE ITEM DESCRIPTION WIDTH LENGTH  
0004 42558 D6061-T6 5/8 OD X .065 WA 12 FT ML

CLN# ORD QTY INVOICE QTY SHIPPED QTY WT  
48.000 FT 48.000 FT 48.000 FT 6.428

PCS  
4

\*\* 1 TEST REPORTS REQUIRED \*\*

\*\* 1 CERTS REQUIRED \*\*

ECCN: EAR99 Export License: NLR Expiration Date: 0/00/00  
PO:49352984 HT:F002180450002 PC: 4 CUSTOMER QTY: 48.000 UOM FT  
MLT:UNITED STATES MFG:UNITED STATES SLB/CL:220820

0005 42588 D6061-T6 5/8 OD X .125 WA 12 FT ML

CLN# ORD QTY INVOICE QTY SHIPPED QTY WT  
48.000 FT 48.000 FT 48.000 FT 11.082

PCS  
4

\*\* 1 TEST REPORTS REQUIRED \*\*

\*\* 1 CERTS REQUIRED \*\*

ECCN: EAR99 Export License: NLR Expiration Date: 0/00/00  
PO:49360917 HT:F002299760001 PC: 4 CUSTOMER QTY: 48.000 UOM FT  
MLT:UNITED STATES MFG:UNITED STATES SLB/CL:221973

0006 36860 SMLS CD 304/L A269 3/4 OD X .049 WA 20' CL

CLN# ORD QTY INVOICE QTY SHIPPED QTY WT  
60.000 FT 60.000 FT 60.000 FT 22.003

PCS  
3

\*\* 1 TEST REPORTS REQUIRED \*\*

\*\* 1 CERTS REQUIRED \*\*

ECCN: 2B999.g Export License: NLR Expiration Date: 0/00/00  
PO:49342471 HT:YX1501783 PC: 3 CUSTOMER QTY: 60.000 UOM FT  
MLT:CHINA MFG:CHINA SLB/CL:11-63

5077-720

**THANK YOU FOR THIS ORDER**

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O'Neal High-Performance Metals Group



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 CANADA    CN K6A 1K7    ONTARIO CANADA    CN K6A 1K7

SALESPERSON: DONNA SMALLEY    SHIP BY: 07/17/17  
 TERMS: NET 30 DAYS    VIA: COMMON CARRIER  
 F.O.B.: SHIPPING POINT    FREIGHT: PREPAID  
 CUST ORD NO.: PO37040    RELEASE NO.:  
    RECEIVING PHONE:

LINE	ITEM DESCRIPTION	WIDTH	LENGTH
BROKERS	KUEHNE AND NAGEL LTD		

-----		PACK INFO -----			
AREA	TYPE OF PKG	PKGS	GRS WEIGHT	WIDTH	LENGTH    HGHT
B	CARTON	1.000	109.000		246.0000
B	REDDICRATE	1.000			150.0000
		2.000	109.000		

BY: TB  
 RT 000-

UNLOAD TYPE: NONE SPECIFIED

*SPR-7-20*

DATE SHIPPED \_\_\_\_\_

DATE FILLED \_\_\_\_\_

**THANK YOU FOR THIS ORDER**

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**Packing  
Slip**

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PAGE 4

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SOLD TO:	SHIP TO:		
DART AEROSPACE LTD	DART AEROSPACE LTD		
1270 ABERDEEN ST	1270 ABERDEEN ST		
HAWKESBURY ON	HAWKESBURY ON		
CANADA	CN K6A 1K7	ONTARIO CANADA	CN K6A 1K7

SALESPERSON: DONNA SMALLEY	SHIP BY: 07/17/17
TERMS: NET 30 DAYS	27 ENGLEHARD DRIVE
F.O.B.: SHIPPING POINT	MONROE TWP NJ 08831
CUST ORD NO.: PO37040	
VIA: COMMON CARRIER	
FREIGHT: PREPAID	
RELEASE NO.:	
RECEIVING PHONE:	

"TW Metals MSDS data is available on our web site at [www.twmetals.com](http://www.twmetals.com). MSDS data can be found under the Technical Resources Tab, Product Statistics & Data and the TW Metals MSDS's heading. If you do not have web site access you may telephone 610-458-1300 and we will mail or fax a copy of our current MSDS data to your location."

"CERTIFICATE OF CONFORMANCE"

"TW Metals certifies that the material supplied on this purchase order and contained in the heat/lot number referenced above has been manufactured, inspected, and tested in accordance with the material specification. These records are on file at TW Metals. Packaging material for shipments to Europe and China consists of manufactured wood products and complies with the European emergency measures for coniferous non-manufactured wood packing material"

Authorized Test Report Clerk *Jessica Mannheim* Date: 7/17/17

These commodities have been exported from the United States in accordance with the U.S. export control laws, export administrations regulations. Diversion contrary to U.S. law prohibited.

**THANK YOU FOR THIS ORDER**

TERMS AND CONDITIONS APPLICABLE TO THE SALE OF THESE PRODUCTS ARE SET FORTH ON OUR WEBSITE FOR YOUR CAREFUL REVIEW.  
<http://www.twmetals.com/invoice-terms.html>



PRECISION TUBE CO.  
287 WISSAHICKON AVE.  
NORTH WALES PA 19454

Control No: 2839

**CERTIFIED TEST REPORT**

CUSTOMER PURCHASE ORDER NO.	CUST. ORD. NO.	PRECISION TUBE P/N
M 49361230 LINE 001	438268	24A037500580006

**SOLD:** TW METALS  
**TO** 235 TUBEWAY  
CAROL STREAM, IL 60188  
UNITED STATES

**SHIP:** TW METALS  
**TO** 235 TUBEWAY  
CAROL STREAM, IL 60188  
UNITED STATES

QUANTITY ORD.	DESCRIPTION	QTY. SHIPPED	DATE SHIPPED
4008 FT	METAL - 6061 ALUM TEMPER - T6 SPEC - AMS 4082P AMS-WW-T-700/6C ASTM-B-210-12 LENGTH - 12 FT LGTH TOL +.1250 IN -.0000 IN SHAPE - ROUND FINISH - STRAIGHT EXACT LENGTHS OD .3750 +.0030 -.0030 ID WALL .0580 +.0040 -.0040	4188 FT	12/21/16

**MECHANICAL PROPERTIES**

SAMPLE #	TENSILE STRENGTH (P.S.I.)	YIELD STRENGTH (P.S.I.)	ELONGATION IN 2 INCHES (%)	ROCKWELL HARDNESS	AVERAGE GRAIN SIZE (MM.)
1	44,103	37,550	20		

**DESTRUCTIVE TESTS**

Comments: FAR BAA COMPLIES, DFARS BAA COMPLIES, FAR TAA COMPLIES



**NON-DESTRUCTIVE TESTS**

EDDY CURRENT: PASS

DAS  
5

**CHEMICAL COMPOSITION**

ALLOY: 6061		HEAT:		TRACEABILITY #: 1180968					
				RAW MATL VENDOR: PTC7874 - Kaiser Aluminum					
	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Al
Min	0.40		0.15		0.80	0.04			Rem.
Max	0.80	0.70	0.40	0.15	1.20	0.35	0.25	0.15	
OTHER ELEMENTS: 0.05 MAX EACH / 0.15 MAX TOTAL									

We hereby certify that the material has been manufactured and tested in accordance with the requirements of the applicable specifications and descriptions set forth on Precision Tube's sales acknowledgement. During the manufacturing, testing and inspection, the product did not come into direct contact with mercury or any of its compounds, nor with any mercury containing device employing a single boundary containment. Test results indicate that the material is compliant with the current revision of the RoHS Directive (2011/65/EU).

Melted and Manufactured in USA  
QMS Registered to ISO 9001: 2008

By:   
Art Onaitis  
QA Manager

12/21/16  
Page: 1 of 1

C

# KAISER ALUMINUM

FABRICATED PRODUCTS

KAISER ALUMINUM  
FABRICATED PRODUCTS, LLC  
2425 STEVENS DRIVE  
RICHLAND, WA 99352

## CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>



CUSTOMER PO NUMBER: PTC7874		CUSTOMER PART NUMBER: SPIRIT-371850		PRODUCT DESCRIPTION: 5.400 LB/PC .500 LB/-0 LB 1.312 OD X .085 WALL ESRT	
KAISER ORDER NUMBER: 320897	LINE ITEM: 001	SHIP DATE: 10/28/2016	KAISER LOT NUMBER: 50751-347	ALLOY: 6061	TEMPER: O
WEIGHT SHIPPED: 10769.000 LB	QUANTITY: 1950.000 PCS	B/L NUMBER: 005171	DIAM/DAF/THKNS:	WIDTH:	LENGTH: 13.984 FT
SHIP TO:  PRECISION TUBE CO 287 WISSAHICKON AVENUE N. WALES, PA 19454 USA			SOLD TO: MUELLER INDUSTRIES, INC PRECISION TUBE 8285 TOURNAMENT DRIVE STE. 150 MEMPHIS, TN 38125 USA		

### Actual Physical Properties

REFERENCE	DASH#	SAMPLE#	UTS (KSI)	YTS (KSI)	%Elong in 2	HARDNESS	CONDUCT.	BEND
50751-347	0001	0001	18.7	5.9	27.2	NA N/A	N/A	N/A
50751-347	0001	0002	18.4	5.5	27.8	N/A	N/A	N/A
50751-347	0001	0003	18.3	5.6	27.1	N/A	N/A	N/A
50751-347	0001	0004	18.0	5.5	26.7	N/A	N/A	N/A
50751-347	0001	0005	18.3	5.9	27.2	N/A	N/A	N/A
50751-347	0001	0006	17.7	5.6	27.6	N/A	N/A	N/A
50751-347	0001	0007	18.3	5.9	26.8	N/A	N/A	N/A
50751-347	0001	0008	18.6	5.7	25.7	N/A	N/A	N/A
50751-347	0001	0009	18.2	5.5	26.5	N/A	N/A	N/A
50751-347	0001	0010	18.6	5.8	26.0	N/A	N/A	N/A
50751-347	0001	0011	18.5	5.7	28.6	N/A	N/A	N/A

### Chemical Composition (wt%), Aluminum Remainder

LIMITS	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Bi	Zr	Ea	Tot
Maximum	0.80	0.70	0.40	0.15	1.20	0.35	0.25	0.15	NA	NA	NA	0.05	.15
Minimum	0.40	0.00	0.15	0.00	0.80	0.04	0.00	0.00	NA	NA	NA	0.00	.0
F76091	.58	.30	.22	.06	1.03	.09	.08	.03	.00	.00	.00	.01	.02
F76216	.60	.30	.21	.05	1.01	.09	.07	.03	.00	.00	.00	.01	.02

### Applicable Requirements:

ASTM-B241-16 NON-STENCILED ASTM-B221-14 ASTM-B345-11 AMS-QQ-A-200/3A TYPE I  
UNS#A96061 Also conforms to EN 10204 3.1

### Miscellaneous Notes

MANUFACTURED IN USA MELTED IN USA  
MERCURY IS NOT A NORMAL BACKGROUND ELEMENT IN ALUMINUM ALLOYS. NEITHER MERCURY NOR ANY  
OF ITS COMPOUNDS ARE UTILITIZED BY KAISER ALUMINUM IN THE MANUFACTURE OF THIS MATERIAL.



Plant Serial: 00015006  
Kaiser Order Number: 320897  
Line Item: 001

C

# **KAISER ALUMINUM**

**FABRICATED PRODUCTS**

KAISER ALUMINUM  
FABRICATED PRODUCTS, LLC  
2425 STEVENS DRIVE  
RICHLAND, WA 99352

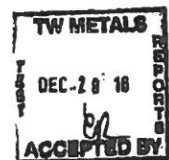
## **CERTIFIED TEST REPORT**

<http://Online.KaiserAluminum.com>

### **CERTIFICATION**

Kaiser Aluminum Fabricated Products, LLC hereby certifies that metal shipped under this order has been inspected and tested and found in conformance with applicable specifications forming a part of the description set forth in Kaiser's sales acknowledgement form. Any warranty is limited to that shown on Kaiser's general terms and conditions of sale. Test reports are on file, subject to examination.

JOSEPH AMES, QUALITY MANAGER



Plant Serial: 00015006  
Kaiser Order Number: 320897  
Line Item: 001

C

# KAISER ALUMINUM FABRICATED PRODUCTS

## CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

KAISER ALUMINUM  
FABRICATED PRODUCTS, LLC  
6573 W. WILLIS ROAD  
CHANDLER, AZ 85226

CUSTOMER PO NUMBER: M49365548-1		CUSTOMER PART NUMBER: 42276		PRODUCT DESCRIPTION: Drawn Seamless Tube/Pipe	
KAISER ORDER NUMBER: 222661	LINE ITEM: 001	SHIP DATE: 03/20/2017	KAISER LOT NUMBER: F00236125	ALLOY: 6061	TEMPER: T6
WEIGHT SHIPPED: 443.000 LB	QUANTITY: 388.000 PCS	B/L NUMBER: 224652	DIAM/DAF/THKNS: 	WIDTH: 	LENGTH: 12.000 FT
SHIP TO:  TW METALS INC 235 WEST TUBEWAY DRIVE CAROL STREAM, IL 60188 USA			SOLD TO:  TW METALS INC 760 CONSTITUTION DRIVE SUITE 204 EXTON, PA 19341 USA		

### Actual Physical Properties

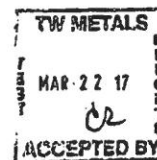
REFERENCE	DASH#	SAMPLE#	UTS (KSI)	YTS (KSI)	ELONG%	HARDNESS	CON%IACS	BEND
F00236125	0001	1	46.7	41.1	17.0	N/A	N/A	N/A
F00236125	0002	1	46.2	40.9	18.0	N/A	N/A	N/A

### Chemical Composition (wt%), Aluminum Remainder

LIMITS	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Bi	Zr	Ea	Tot
Maximum	0.80	0.70	0.40	0.15	1.20	0.35	0.25	0.15	NA	NA	NA	0.05	0.15
Minimum	0.40	0.00	0.15	0.00	0.80	0.04	0.00	0.00	NA	NA	NA	0.00	0.00
D76510	.62	.23	.23	.05	.99	.07	.07	.02	.00	.00	.00	.01	.02

### Applicable Requirements:

Description: OD: 0.5000"; Wall: 0.0580"; Round  
AMS4082P AMS-WW-T-700/6C ASTM B210-12 WW-T-700/6F  
WE TAKE EXCEPTION TO PARA. 5.2.1., Per AMS4082P, WAS NOT OILED.  
This Product Complies to FAR BAA, DFARS BAA, FAR TAA  
COMPLIES TO DIN EN 10204 JAN 2005  
No Weld Repair. Mercury Free.



### Miscellaneous Notes

MANUFACTURED IN USA MELTED IN USA  
MATERIAL COMPLIES WITH FAR BAA (FAR 52.225-1, BUY AMERICAN ACT- SUPPLIES), DFARS BAA (DFARS 252.225-7001 BUY AMERICAN ACT & BAL OF PAYMENTS PROG), AND FAR TAA (FAR 52.225-5 TRADE AGREEMENTS).

Plant Serial: 00024461  
Kaiser Order Number: 222661  
Line Item: 001

**KAISER**  
**ALUMINUM**  
**FABRICATED PRODUCTS**

KAISER ALUMINUM  
FABRICATED PRODUCTS, LLC  
6573 W. WILLIS ROAD  
CHANDLER, AZ 85226

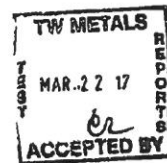
**CERTIFIED TEST REPORT**

<http://Online.KaiserAluminum.com>

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Hans Kattentidt, Quality Manager



Plant Serial: 00024461  
Kaiser Order Number: 222661  
Line Item: 001

# KAISER ALUMINUM FABRICATED PRODUCTS

*Best in Class*

## CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

KAISER ALUMINUM  
FABRICATED PRODUCTS, LLC  
6573 W. WILLIS ROAD  
CHANDLER, AZ 85226

CUSTOMER PO NUMBER: M49363158-1		CUSTOMER PART NUMBER: 42506		PRODUCT DESCRIPTION: Drawn Seamless Tube/Pipe	
KAISER ORDER NUMBER: 222297	LINE ITEM: 001	SHIP DATE: 01/31/2017	KAISER LOT NUMBER: F00232538	ALLOY: 6061	TEMPER: T6
WEIGHT SHIPPED: 510.000 LB	QUANTITY: 409.000 PCS	B/L NUMBER: 224220	DIAM/DAF/THKNS: 	WIDTH: 	LENGTH: 12.000 FT
SHIP TO:  TW METALS INC 235 WEST TUBEWAY DRIVE CAROL STREAM, IL 60188 USA			SOLD TO:  TW METALS INC 760 CONSTITUTION DRIVE SUITE 204 EXTON, PA 19341 USA		

### Actual Physical Properties

DAS  
5  
9-89

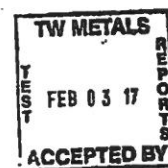
REFERENCE	DASH#	SAMPLE#	UTS (KSI)	YTS (KSI)	ELONG%	HARDNESS	CON%IACS	BEND
F00232538	0001	1	46.2	39.8	17.0	N/A	N/A	N/A
F00232538	0002	1	47.7	41.5	17.0	N/A	N/A	N/A

### Chemical Composition (wt%), Aluminum Remainder

LIMITS	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Bi	Zr	Ea	Tot
Maximum	0.80	0.70	0.40	0.15	1.20	0.35	0.25	0.15	NA	NA	NA	0.05	0.15
Minimum	0.40	0.00	0.15	0.00	0.80	0.04	0.00	0.00	NA	NA	NA	0.00	0.00
D83226	.60	.27	.25	.05	1.00	.08	.05	.03	.00	.00	.00	.01	.02

### Applicable Requirements:

Description: OD: 0.6250"; Wall: 0.0490"; Round @  
AMS4082P AMS-WW-T-700/6C ASTM B210-12 WW-T-700/6F  
WE TAKE EXCEPTION TO PARA. 5.2.1., Per AMS-4082P, WAS NOT OILED.  
This Product Complies to FAR BAA, DFARS BAA, FAR TAA  
COMPLIES TO DIN EN 10204 JAN 2005  
No Weld Repair. Mercury Free.



### Miscellaneous Notes

MANUFACTURED IN USA MELTED IN USA  
MATERIAL COMPLIES WITH FAR BAA (FAR 52.225-1, BUY AMERICAN ACT- SUPPLIES), DFARS BAA (DFARS 252.225-7001 BUY AMERICAN ACT & BAL OF PAYMENTS PROG), AND FAR TAA (FAR 52.225-5 TRADE AGREEMENTS).

*AB*



**KAISER**  
**ALUMINUM**  
**FABRICATED PRODUCTS**

*Best in Class*

**CERTIFIED TEST REPORT**

<http://Online.KaiserAluminum.com>

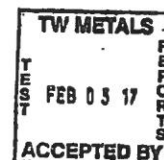
KAISER ALUMINUM  
FABRICATED PRODUCTS, LLC  
6573 W. WILLIS ROAD  
CHANDLER, AZ 85226

**CERTIFICATION**

Kaiser Aluminum Fabricated Products, LLC ('Kaiser') hereby certifies that metal shipped under this order has been inspected and tested and found in conformance with the applicable specifications forming a part of the description set forth in Kaiser's sales acknowledgement form. Any warranty is limited to that shown on Kaiser's general terms & conditions of sale. Test reports are on file subject to examination.

Hans Kattentidt, Quality Manager

*[Signature]*



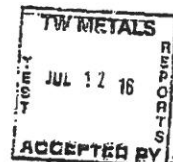
*[Handwritten mark]*

# KAISER ALUMINUM FABRICATED PRODUCTS

## CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

KAISER ALUMINUM  
FABRICATED PRODUCTS, LLC  
6573 W. WILLIS ROAD  
CHANDLER, AZ 85226



CUSTOMER PO NUMBER: M49352984-1		CUSTOMER PART NUMBER: 42558		PRODUCT DESCRIPTION: Drawn Seamless Tube/Pipe	
KAISER ORDER NUMBER: 220820	LINE ITEM: 001	SHIP DATE: 07/05/2016	KAISER LOT NUMBER: F00218045	ALLOY: 6061	TEMPER: T6
WEIGHT SHIPPED: 558.000 LB	QUANTITY: 346.000 PCS	B/L NUMBER: 222226	DIAM/DAF/THKNS:	WIDTH:	LENGTH: 12.000 FT
SHIP TO:  TW METALS INC 235 WEST TUBEWAY DRIVE CAROL STREAM, IL 60188 USA			SOLD TO:  TW METALS INC 760 CONSTITUTION DRIVE SUITE 204 EXTON, PA 19341 USA		

DAS  
5

### Actual Physical Properties

REFERENCE#	DASH#	SAMPLE#	UTS (KSI)	YTS (KSI)	ELONG%	HARDNESS	CON%IACS	BEND
F00218045	0001	1	48.7	43.2	17.0	N/A	N/A	N/A
F00218045	0002	1	46.9	40.8	18.0	N/A	N/A	N/A

### Chemical Composition (wt%), Aluminum Remainder

LIMITS	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Bi	Zr	Ea	Tot
Maximum	0.80	0.70	0.40	0.15	1.20	0.35	0.25	0.15	NA	NA	NA	0.05	0.15
Minimum	0.40	0.00	0.15	0.00	0.80	0.04	0.00	0.00	NA	NA	NA	0.00	0.00
D76011	.60	.24	.23	.03	.97	.07	.05	.02	.00	.00	.00	.01	.03

### Applicable Requirements:

Description: OD: 0.6250"; Wall: 0.0650"; Round @  
AMS 4082P AMS-WW-T-700/6C ASTM B210-12 WW-T-700/6F  
WE TAKE EXCEPTION TO PARA. 5.2.1, Per AMS-4082P, WAS NOT OILED.  
This Product Complies to FAR BAA, DFARS BAA, FAR TAA  
COMPLIES TO DIN EN 10204 JAN 2005  
No Weld Repair. Mercury Free.

### Miscellaneous Notes

MANUFACTURED IN USA MELTED IN USA  
MATERIAL COMPLIES WITH FAR BAA (FAR 52.225-1, BUY AMERICAN ACT- SUPPLIES), DFARS BAA  
(DFARS 252.225-7001 BUY AMERICAN ACT & BAL OF PAYMENTS PROG), AND FAR TAA (FAR 52.225-5  
TRADE AGREEMENTS).

Plant Serial: 00022478  
Kaiser Order Number: 220820  
Line Item: 001

UMB

**KAISER**  
**ALUMINUM**  
**FABRICATED PRODUCTS**

KAISER ALUMINUM  
FABRICATED PRODUCTS, LLC  
6573 W. WILLIS ROAD  
CHANDLER, AZ 85226

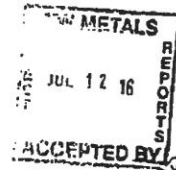
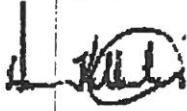
**CERTIFIED TEST REPORT**

<http://Online.KaiserAluminum.com>

**CERTIFICATION**

Kaiser Aluminum Fabricated Products, LLC ('Kaiser') hereby certifies that metal shipped under this order has been inspected and tested and found in conformance with the applicable specifications forming a part of the description set forth in Kaiser's sales acknowledgement form. Any warranty is limited to that shown on Kaiser's general terms & conditions of sale. Test reports are on file subject to examination.

Hans Kattentidt, Quality Manager



# KAISER ALUMINUM FABRICATED PRODUCTS

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## CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

KAISER ALUMINUM  
FABRICATED PRODUCTS, LLC  
6573 W. WILLIS ROAD  
CHANDLER, AZ 85226

CUSTOMER PO NUMBER: M49360917-1		CUSTOMER PART NUMBER: 42588		PRODUCT DESCRIPTION: Drawn Seamless Tube/Pipe	
KAISER ORDER NUMBER: 221973	LINE ITEM: 001	SHIP DATE: 12/05/2016	KAISER LOT NUMBER: F00229976	ALLOY: 6061	TEMPER: T6
WEIGHT SHIPPED: 239.000 LB	QUANTITY: 86.000 PCS	B/L NUMBER: 223667	DIAM/DAF/THKNS: 	WIDTH: 	LENGTH: 12.000 FT
SHIP TO: TW METALS INC 27 ENGLEHARD DRIVE EXIT 8A OFF NJ TPK MONROE TWP, NJ 08831 USA			SOLD TO: TW METALS INC 760 CONSTITUTION DRIVE SUITE 204 EXTON, PA 19341 USA		

### Actual Physical Properties

REFERENCE	DASH#	SAMPLE#	UTS (KSI)	YTS (KSI)	ELONG%	HARDNESS	CON%IACS	BEND
F00229976	0001	1	46.9	40.5	17.5	N/A	N/A	N/A

5  
9-89

### Chemical Composition (wt%), Aluminum Remainder

LIMITS	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Bi	Zr	Ea	Tot
Maximum	0.80	0.70	0.40	0.15	1.20	0.35	0.25	0.15	NA	NA	NA	0.05	0.15
Minimum	0.40	0.00	0.15	0.00	0.80	0.04	0.00	0.00	NA	NA	NA	0.00	0.00
D76008	.59	.26	.22	.04	1.00	.10	.05	.02	.00	.00	.00	.01	.02

### Applicable Requirements:

Description: OD: 0.6250"; Wall: 0.1250"; Round @  
AMS4082P AMS-WW-T-700/6C ASTM B210-12 WW-T-700/6F  
WE TAKE EXCEPTION TO PARA. 5.2.1, Per AMS-4082P, WAS NOT OILED.  
This Product Complies to FAR BAA, DFARS BAA, FAR TAA  
COMPLIES TO DIN EN 10204 JAN 2005  
No Weld Repair. Mercury Free.

### Miscellaneous Notes

MANUFACTURED IN USA MELTED IN USA  
MATERIAL COMPLIES WITH FAR BAA (FAR 52.225-1, BUY AMERICAN ACT- SUPPLIES), DFARS BAA  
(DFARS 252.225-7001 BUY AMERICAN ACT & BAL OF PAYMENTS PROG), AND FAR TAA (FAR 52.225-5  
TRADE AGREEMENTS).



**KAISER**  
**ALUMINUM**  
**FABRICATED PRODUCTS**

*Best in Class*

**CERTIFIED TEST REPORT**

<http://Online.KaiserAluminum.com>

KAISER ALUMINUM  
FABRICATED PRODUCTS, LLC  
6573 W. WILLIS ROAD  
CHANDLER, AZ 85226

**CERTIFICATION**

Kaiser Aluminum Fabricated Products, LLC ('Kaiser') hereby certifies that metal shipped under this order has been inspected and tested and found in conformance with the applicable specifications forming a part of the description set forth in Kaiser's sales acknowledgement form. Any warranty is limited to that shown on Kaiser's general terms & conditions of sale. Test reports are on file subject to examination.

Hans Kattentidt, Quality Manager



## MILL TEST REPORT

Purchaser.: TW METALS-Cranbury				Certificate No.: 16-1-13					
Contract No.: TWM P.O.No.: M49342471				Date of Issue.: 2016.1.5					
Commodity: Stainless Steel Seamless Tubes		Specifications: ASTM A213-15c/ASME SA213-15/ASTM A269-15a EAW							
Process: Cold Drawn				Delivery Condition: OD Polished to 240 Grit					
Steel Grade	Heat Number	Lot Number	Dimensions		Quantity				
TP304/TP304L	YX1501-783	11-63	3/4" x 0.049" x 20'		Pieces	Feet			
					250	5,000			
Chemical Composition by Weight (%)									
Element	C	Mn	P	S	Si	Cr	Ni	Mo	Co
Requirements	≤0.035	≤2.00	≤0.045	≤0.030	≤1.00	18.00-20.00	8.00-12.00	-	-
Ladle Analysis	0.012	0.68	0.031	0.001	0.37	18.35	8.05	-	-
Product Analysis	0.019	0.70	0.033	0.002	0.39	18.37	8.31	-	-
Mechanical Properties									
Test Item	Elongation (% in 2")		Tensile Strength (PSI) Rm		Yield Strength (PSI) Rp / 0.2%				
Requirements	≥35		≥75,000		≥30,000				
Test Results	65/66		89,000/90,000		34,000/35,000				
Test Item	Reduction of Area Z (%)	Hardness	Cold Bend Test	Flaring Test	Flattening Test	Flange Test	P.M.I. Test		
Requirements	-	HRB≤80	-	22%	e=0.09	-	-		
Test Results	-	75/77	-	Passed	Passed	-	OK		
Test Item	Eddy Current Test	Air Underwater Pressure Test	Ultrasonic Test	Intergranular Corrosion Test	Macroscopic Inspection				
Requirements	ASTM E 426	-	-	ASTM A262 E	End Cut	Appearance			
Test Results	Passed	-	-	OK	OK	OK			

ISO 9001:2008 Certified by Intertek 110703068

PED Certified by SZUTEST 2195-PED-1526002

## Additional Remarks:

- (1) All tubes annealed to above 1900 Deg F and water quenched below 800 Deg F in 3 minutes
- (2) All tubes tested per ASTM A1016-14
- (3) Materials is NACE MR0103-2007 compliant (per Section 2.5)
- (4) Materials is NACE MR0175/ISO 15156-2003 compliant (per Section 4.2.1)
- (5) In Compliance with EN 10204-3.1
- (6) In Compliance with RoHS Stipulation
- (7) No weld repair performed
- (8) Free from mercury contamination
- (9) Free from radioactive contamination
- (10) Billets melt and pipes/tubes manufactured in China
- (11) All tubes 100% PMI tested
- (12) All tubes 100% Eddy Current tested

**CANNOT CERTIFY COMPLIANCE  
FAR BAA / DFARS BAA / FAR TAA**



By:

James Shi

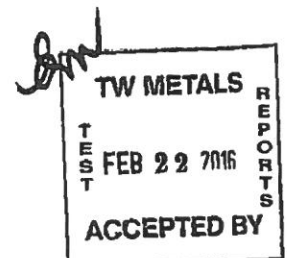
James Shi / Manager

Quality Control Department

We hereby certify that this report is true and correct.

Shanghai Pufa Stainless Steel Pipe Factory

No. 59, Shuangye Road, Wanggang, New Pudong District, Shanghai, China



# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M6011610.375 W.058

PO / BATCH NO: PO 37040/M138083

DATE: JUL 20 2017

MATERIAL CERT REC'D: yes  
 QUANTITY RECEIVED: 180'  
 QUANTITY INSPECTED: 180'  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: W.058  
 THICKNESS RECEIVED: W.060  
 SHEET SIZE ORDERED: NA  
 SHEET SIZE RECEIVED: NA

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
CORRECT FINISH	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	
CORROSION	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	<u>Asm B 210</u>
CORRECT THICKNESS	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	
PHOTO REQUIRED	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	<u>H7#1180968</u>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL	HRC	HRB	DUR A	DUR D	
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

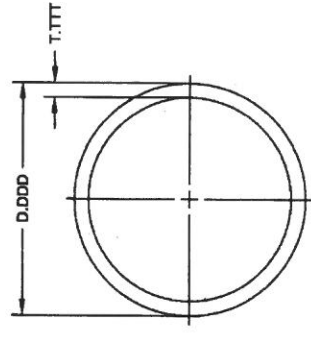
testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>DAS</u> DATE: <u>JUL 20 2017</u>	SIGNED OFF BY: _____ DATE: _____	

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

8 7 6 5 4 3 2 1

D C B A



PURCHASE MATERIAL: 6061-T6/T62/T6510/T6511 SEAMLESS TUBING

SPECIFICATION: **5** **DAS**  
WM-T-7008  
OR QQ-A-200/8 OR QQ-A-225/8  
OR AMS-4080 OR AMS-4082 OR AMS-4083  
OR ASTM B210 OR ASTM B241

PART NUMBER: **6061-T6/T62/D.DDD/W.T.TTT** **OD** **WALL**

WHERE "D.DDD" = OD IN INCHES  
"T.TTT" = WALL THICKNESS  
EG. 3/8" OD X 0.058 WALL = M6061T6T0.375W0.058  
MATERIAL TOLERANCE: PER ANSI H35.2

RELEASED  
2013-07-02

C	COMPLETE REFORMAT, ADDED T6510 & T6511. ADDED AMS 4083, ASTM B210 & ASTM B241 ADDED MATERIAL TOLERANCE	AJS	13.06.12
B	ADD QQ-A-200/8 & QQ-A-225/8	CP	04.01.23
A	NEW ISSUE	DS	01.06.21
REV.	DESCRIPTION	BY	DATE
DRAWN	AJS		
CHECKED	AJS		
MFG. APPR.	<i>[Signature]</i>		
DE APPR.	<i>[Signature]</i>		
DATE	13.06.12		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWING NO. M6061T6T			
TITLE 6061-T6 TUBING			
SHEET 1 OF 1			
SCALE NTS			
COPYRIGHT © 2011 BY DART AEROSPACE LTD THIS DOCUMENT IS UNCLASSIFIED AND IS NOT TO BE RELEASED TO THE PUBLIC WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE LTD			

8 7 6 5 4 3 2 1



# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M60G16T0.500W058  
DATE: JUL 20 2017

PO / BATCH NO.: P037040/M38083

MATERIAL CERT REC'D: yes  
QUANTITY RECEIVED: 48'  
QUANTITY INSPECTED: 481  
QUANTITY REJECTED: 0

THICKNESS ORDERED: W.058  
THICKNESS RECEIVED: W.058  
SHEET SIZE ORDERED: N/A  
SHEET SIZE RECEIVED: N/A

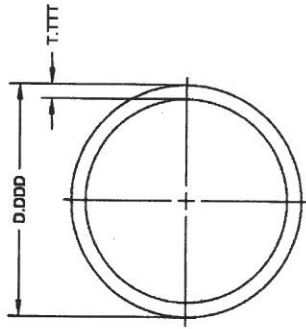
DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="checkbox"/> N	
CORRECT FINISH	<input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N	
CORROSION	Y <input checked="" type="checkbox"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N	<u>Astm B210</u>
CORRECT THICKNESS	<input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N	
PHOTO REQUIRED	Y <input checked="" type="checkbox"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N	<u>47 # F0023C125</u>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input checked="" type="checkbox"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input checked="" type="checkbox"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL	HRC	HRB	DUR A	DUR D	
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

*testers located in the Quality Office*

<b>QC 18 INSPECTION</b>		<b>ENGINEERING SIGNOFF (if required)</b>	
INSPECTED BY: <u>5</u>	SIGNED OFF BY: _____		
DATE: <u>JUL 20 2017</u>	DATE: _____		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in



PURCHASE MATERIAL: 6061-T6/T62/T6510/T6511 SEAMLESS TUBING  
 SPECIFICATION: **5** **DAS**

5-WW-T-700/8  
 OR QQ-A-200/8 OR QQ-A-225/8  
 OR AMS-4082 OR AMS-4083  
 OR ASTM B210 OR ASTM B241

PART NUMBER: M6061T6TD.DDD|WT.TTT  
 OD | WALL

WHERE "D.DDD" = OD IN INCHES  
 "T.TTT" = WALL THICKNESS  
 EG. 3/8" OD X 0.058 WALL = M6061T6TD.375W0.058

MATERIAL TOLERANCE: PER ANSI H35.2

RELEASED  
 2013-07-02

C	COMPLETE REFORMAT. ADDED T6510 & T6511. ADDED AMS 4083, ASTM B210 & ASTM B241 ADDED MATERIAL TOLERANCE	AJS	13.06.12
B	ADD QQ-A-200/8 & QQ-A-225/8	CP	04.01.23
A	NEW ISSUE	DS	01.06.21
REV.	DESCRIPTION	BY	DATE
DESIGN	AJS		
DRAWN	AJS		
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	13.06.12		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. M6061T6T TITLE 6061-T6 TUBING SCALE NTS REV. C SHEET 1 OF 1 COPYRIGHT © 2001 BY DART AEROSPACE LTD THIS DOCUMENT IS THE PROPERTY OF DART AEROSPACE LTD. IT IS NOT TO BE USED FOR ANY PURPOSES OR FOR REPRODUCTION WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE LTD.			

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M6061H6+C.825W.049  
 DATE: JUL 20 2017

PO / BATCH NO.: P037040/M138083

MATERIAL CERT REC'D: yes  
 QUANTITY RECEIVED: 24'  
 QUANTITY INSPECTED: 24'  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: W.049  
 THICKNESS RECEIVED: W.049  
 SHEET SIZE ORDERED: N/A  
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	<input checked="" type="checkbox"/> N	
CORRECT FINISH	<input checked="" type="checkbox"/> Y	N	
CORROSION	Y	<input checked="" type="checkbox"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> Y	N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/> Y	N	Astm B210
CORRECT THICKNESS	<input checked="" type="checkbox"/> Y	N	
PHOTO REQUIRED	Y	<input checked="" type="checkbox"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> Y	N	HF # F00232538
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> Y	N	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> Y	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	<input checked="" type="checkbox"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	<input checked="" type="checkbox"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL	HRC	HRB	DUR A	DUR D	
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

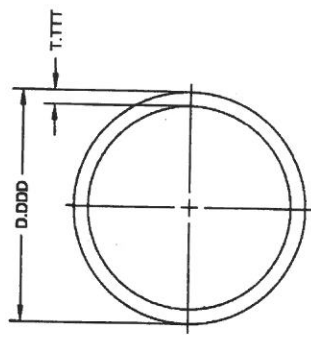
<b>QC 18 INSPECTION</b>		<b>ENGINEERING SIGNOFF (if required)</b>	
INSPECTED BY: <u>5</u> <u>8-89</u>	SIGNED OFF BY: _____		
DATE: <u>JUL 20 2017</u>	DATE: _____		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

PURCHASE MATERIAL: 6061-T6/T62/T6510/T6511 SEAMLESS TUBING  
 SPECIFICATION: **0-89**  
 WW-T-7008  
 OR QQ-A-200/8 OR QQ-A-225/8  
 OR AMS 4080 OR AMS 4082 OR AMS 4083  
 OR ASTM B210 OR ASTM B241

PART NUMBER: M6061T6T6D.DDOWT.TTT  
 OD WALL

WHERE "D.DDD" = OD IN INCHES  
 "T.TTT" = WALL THICKNESS  
 EG. 3/8" OD X 0.058 WALL = M6061T6T6D.375W0.058  
 MATERIAL TOLERANCE: PER ANSI H35.2



RELEASED  
 2013-07-02

C	COMPLETE REFORMAT. ADDED T6510 & T6511. ADDED AMS 4083, ASTM B210 & ASTM B241 ADDED MATERIAL TOLERANCE	AJS	13.06.12
B	ADD QQ-A-200/8 & QQ-A-225/8	CP	04.01.23
A	NEW ISSUE	DS	01.06.21
REV.	DESCRIPTION	BY	DATE
DESIGN	AJS		
DRAWN	AJS		
CHECKED			
MFG. APPR.	M6061T6T		
APPROVED			
DE APPR.			
DATE	13.06.12		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA		REV. C	
DRAWING NO.		SHEET 1 OF 1	
TITLE		SCALE	
6061-T6 TUBING		NTS	
<small>           COPYRIGHT © 2001 BY DART AEROSPACE LTD            THIS DOCUMENT IS UNCLASSIFIED AND NOT TO BE USED FOR PROPRIETARY OR CONFIDENTIALITY TO ANY OTHER PERSON OR ENTITY            WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE LTD         </small>			

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M6061T6+0,625W.065

PO / BATCH NO.: PO37040/M138083

DATE: JUL 20 2017

MATERIAL CERT REC'D: yes

THICKNESS ORDERED: W.065

QUANTITY RECEIVED: 48'

THICKNESS RECEIVED: W.065

QUANTITY INSPECTED: 48'

SHEET SIZE ORDERED: N/A

QUANTITY REJECTED: 0

SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	<input checked="" type="radio"/> N	
CORRECT FINISH	<input checked="" type="radio"/> Y	N	
CORROSION	Y	<input checked="" type="radio"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y	N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y	N	<u>Astm B210</u>
CORRECT THICKNESS	<input checked="" type="radio"/> Y	N	
PHOTO REQUIRED	Y	<input checked="" type="radio"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y	N	<u>HT # 500218045</u>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y	N	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	<input checked="" type="radio"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	<input checked="" type="radio"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL	HRC	HRB	DUR A	DUR D	
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

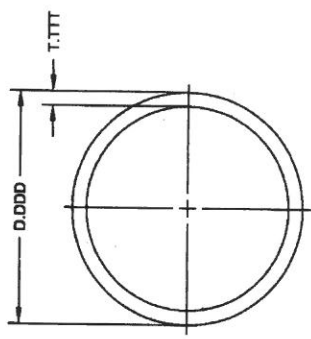
<b>QC 18 INSPECTION</b>		<b>ENGINEERING SIGNOFF (if required)</b>	
INSPECTED BY: <u>DAS</u> <u>5</u> DATE: <u>0-89 JUL 20 2017</u>	SIGNED OFF BY: _____ DATE: _____		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

PURCHASE MATERIAL: 6061-T6/T62/T6510/T6511 SEAMLESS TUBING  
 SPECIFICATION: WW-T-7008 OR QQ-A-200/8 OR QQ-A-225/8  
 OR AMS-4083 OR AMS-4082 OR AMS 4083  
 OR ASTM B210 OR ASTM B241

PART NUMBER: M6061T6T.D.DDD|W.T.TTT  
 OD WALL

WHERE "D.DDD" = OD IN INCHES  
 "T.TTT" = WALL THICKNESS  
 EG. 3/8" OD X 0.058 WALL = M6061T6T0.375W0.058  
 MATERIAL TOLERANCE: PER ANSI H35.2



RELEASED  
 2013-07-02

C	COMPLETE REFORMAT. ADDED T6510 & T6511. ADDED AMS 4083, ASTM B210 & ASTM B241 ADDED MATERIAL TOLERANCE	AJS	13.06.12
B	ADD QQ-A-200/8 & QQ-A-225/8	CP	04.01.23
A	NEW ISSUE	DS	01.06.21
REV.	DESCRIPTION	BY	DATE
DESIGN	AJS		
DRAWN	AJS		
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	13.06.12		

DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWING NO.	M6061T6T
REV. C	SHEET 1 OF 1
TITLE	6061-T6 TUBING
SCALE	NTS
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# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M6061 T6 0.625W.125  
 DATE: JUL 20 2017

PO / BATCH NO.: PO37049/M138083

MATERIAL CERT REC'D: yes  
 QUANTITY RECEIVED: 48'  
 QUANTITY INSPECTED: 48'  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: W.125  
 THICKNESS RECEIVED: W.125  
 SHEET SIZE ORDERED: N/A  
 SHEET SIZE RECEIVED: N/A

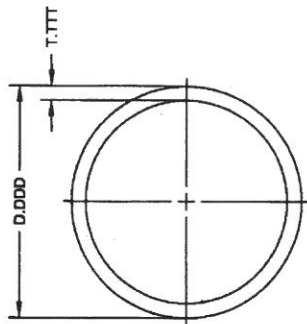
DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="checkbox"/>	
CORRECT FINISH	<input checked="" type="checkbox"/> N	
CORROSION	Y <input checked="" type="checkbox"/>	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/> N	<u>ASTM B210</u>
CORRECT THICKNESS	<input checked="" type="checkbox"/> N	
PHOTO REQUIRED	Y <input checked="" type="checkbox"/>	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> N	<u>HX #F00229976</u>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input checked="" type="checkbox"/>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input checked="" type="checkbox"/>	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL	HRC	HRB	DUR A	DUR D	
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

<b>QC 18 INSPECTION</b>		<b>ENGINEERING SIGNOFF (if required)</b>	
INSPECTED BY: <u>5</u>	SIGNED OFF BY: _____		
DATE: <u>JUL 20 2017</u>	DATE: _____		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in



PURCHASE MATERIAL: 6081-T6/T62/T6510/T6511 SEAMLESS TUBING

SPECIFICATION: D58-89  
 OR QQ-A-200/8 OR QQ-A-225/8  
 OR AMS 4080 OR AMS 4082 OR AMS 4083  
 OR ASTM B210 OR ASTM B241

PART NUMBER: M6061T6T[D.DDD]W[T.TTT]  
 OD | WALL

WHERE "D.DDD" = OD IN INCHES  
 "T.TTT" = WALL THICKNESS  
 EG. 3/8" OD X 0.058 WALL = M6061T6T0.375W0.058

MATERIAL TOLERANCE: PER ANSI H35.2

RELEASED  
 2013-07-02

C	COMPLETE REFORMAT. ADDED T6510 & T6511. ADDED AMS 4083, ASTM B210 & ASTM B241 ADDED MATERIAL TOLERANCE	AJS	13.06.12
B	ADD QQ-A-200/8 & QQ-A-225/8	CP	04.01.23
A	NEW ISSUE	DS	01.06.21
REV.	DESCRIPTION	BY	DATE
DESIGN	AJS		
DRAWN	AJS		
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	13.06.12		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWING NO. M6061T6T			
REV. C SHEET 1 OF 1			
TITLE 6081-T6 TUBING			
SCALE NTS			
DATE 13.06.12			
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# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M304TR0.750W.049

DATE: JUL 20 2017

PO / BATCH NO: P087049/M138083

MATERIAL CERT REC'D: yes  
 QUANTITY RECEIVED: 60'  
 QUANTITY INSPECTED: 60'  
 QUANTITY REJECTED: 0

THICKNESS ORDERED: \_\_\_\_\_  
 THICKNESS RECEIVED: \_\_\_\_\_  
 SHEET SIZE ORDERED: \_\_\_\_\_  
 SHEET SIZE RECEIVED: \_\_\_\_\_

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	<u>BUT found acceptable. 10</u>
CORRECT FINISH	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
CORROSION	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	<u>ASTM A213</u>
CORRECT THICKNESS	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
PHOTO REQUIRED	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	<u>HT # YX1501783</u>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL SIZE OF TEST SAMPLE HARDNESS / DUROMETER READING	HRC	HRB	DUR A	DUR D	

testers located in the Quality Office

<b>QC 18 INSPECTION</b>		<b>ENGINEERING SIGNOFF (if required)</b>	
INSPECTED BY: <u>5</u>	SIGNED OFF BY: _____		
DATE: <u>9-89 JUL 20 2017</u>	DATE: _____		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

# SPECIFICATION CONTROL DRAWING

PURCHASE MATERIALS: AISI 304/316 SS SEAMLESS ROUND TUBING

SPECIFICATION: 5 ASTM A213 OR ASME SA213 OR ASTM A289

9-89 WALL THICKNESS TOLERANCE PER ASTM A289 AS FOLLOWS:

	PERMISSIBLE OD TOL (IN)	PERMISSIBLE WALL TOL
UP TO 1/4"	+0.005	+15%
1/4" TO 1 1/2" EXCL.	+0.005	+10%
1 1/2" TO 3 1/2" EXCL.	+0.010	+10%
3 1/2" TO 5 1/2" EXCL.	+0.015	+10%
5 1/2" TO 8" EXCL.	+0.030	+10%

PART NUMBER: M304TR/D.DDD/W.TTT

WHERE "D.DDD" = OUTSIDE DIAMETER IN INCHES  
AND "TTT" = WALL THICKNESS IN INCHES

EG. 0.375" OD X 0.065" WALL TUBING = M304TR/D.375W.065

RELEASED  
08/06/13

B	REFORMAT DWG, ADD SPECS (ZN D8-1).	CP	08.10.20
A	NEW ISSUE	DS	01.05.08
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
DE APPR.			
DATE	08.10.20		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWING NO. M304TR			
TITLE 304/316 ROUND TUBING			
SCALE NTS			
SHEET 1 OF 1			
REV. B			
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Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
Tel: 613 632 9577  
Fax: 613 632 1053

## PURCHASE ORDER

Purchase Order ID **PO37040**

Purchase Order Date 7/13/2017

PO Print Date 7/14/2017

Page Number 1 of 4

**Order From :**

TW METALS  
PO BOX 933014  
ALTANTA, GA 31193-3014  
US

VU-TWM001

**Ship To :** DART AEROSPACE LTD

1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

E-MAILED  
JUL 14 2017

**Contact Name**

**Vendor Phone** 585 768 5600

**Ship To Contact**

**Ship To Phone**

**Ship Via:** YRC COLLECT

**Ship Acct:**

**Buyer**

Chantal Lavoie

**Customer POID**

**Customer Tax #**

10127-2607

**Terms**

Net 30

**Currency**

USD

**FOB**

FCA - (Free Carrier)

Line Nbr	Reference Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
	Line Comments		Promise Date				
1	M6061T6T0.375W.058	6061-T6 RD Tube .375 x.058W	7/21/2017	Yes	180.00 f	\$2.15	\$387.00
			7/21/2017				
		MATERIAL: 6061-T6/T62/T6510/T6511 SEAMLESS TUBING AS PER WW-T-700/6 OR QQ-A-200/8 OR QQ-A-225/8 OR AMS 4080 OR AMS 4082 OR AMS 4083 OR ASTM B210 OR ASTM B241					

Line Total: \$387.00

2	M6061T6T0.500W.058	6061-T6 RD Tube .500 x.058W	7/21/2017	Yes	40.00 f	\$1.75	\$70.00
			7/21/2017				
		MATERIAL: 6061-T6/T62/T6510/T6511 SEAMLESS TUBING AS PER WW-T-700/6 OR QQ-A-200/8 OR QQ-A-225/8 OR AMS 4080 OR AMS 4082 OR AMS 4083 OR ASTM B210 OR ASTM B241					

Line Total: \$70.00

Note:

7/14/2017



Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
Tel: 613 632 9577  
Fax: 613 632 1053

## PURCHASE ORDER

Purchase Order ID **PO37040**

Purchase Order Date 7/13/2017

PO Print Date 7/14/2017

Page Number 2 of 4

**Order From :**

VU-TWM001

**Ship To :** DART AEROSPACE LTD

TW METALS  
PO BOX 933014  
ALTANTA, GA 31193-3014  
US

1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

**Contact Name**

**Vendor Phone** 585 768 5600

**Ship To Contact**

**Ship To Phone**

**Ship Via:** YRC COLLECT

**Ship Acct:**

**Buyer**

Chantal Lavoie

**Customer POID**

**Customer Tax #** 10127-2607

**Terms** Net 30

**Currency** USD

**FOB** FCA - (Free Carrier)

3	M6061T6T0.625W.049	✓ 6061-T6 RD Tube .625 x.049W	✓ 7/21/2017	20.00	\$3.50	\$70.00
---	--------------------	----------------------------------	-------------	-------	--------	---------

Yes  
7/21/2017

MATERIAL: 6061-T6/T62/T6510/T6511 SEAMLESS TUBING  
AS PER WW-T-700/6 OR QQ-A-200/8 OR QQ-A-225/8 OR  
AMS 4080 OR AMS 4082 OR AMS 4083 OR ASTM B210 OR  
ASTM B241

f  
Recu 24 ft  
2x

84.00

**Line Total:** \$70.00

4	M6061T6T0.625W.065	✓ 6061-T6 RD Tube .625 x.065W	✓ 7/21/2017	40.00	\$3.15	\$126.00
---	--------------------	----------------------------------	-------------	-------	--------	----------

Yes  
7/21/2017

MATERIAL: 6061-T6/T62/T6510/T6511 SEAMLESS TUBING  
AS PER WW-T-700/6 OR QQ-A-200/8 OR QQ-A-225/8 OR  
AMS 4080 OR AMS 4082 OR AMS 4083 OR ASTM B210 OR  
ASTM B241

f  
Recu 48 ft  
4x

15.20

**Line Total:** \$126.00

Split 720

**Note:**

7/14/2017



Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
Tel: 613 632 9577  
Fax: 613 632 1053

## PURCHASE ORDER

Purchase Order ID **PO37040**

Purchase Order Date 7/13/2017

PO Print Date 7/14/2017

Page Number 3 of 4

Order From :  
TW METALS  
PO BOX 933014  
ALTANTA, GA 31193-3014  
US

VU-TWM001

Ship To : DART AEROSPACE LTD  
1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

Contact Name

Vendor Phone 585 768 5600

Ship To Contact

Ship To Phone

Ship Via: YRC COLLECT

Ship Acct:

Buyer

Customer POID

Customer Tax # 10127-2607

Terms Net 30

Currency USD

FOB FCA - (Free Carrier)

Chantal Lavoie

5	M6061T6T0.625W.125	6061-T6 RD Tube 0.625 X.125W	7/21/2017	40.00	\$5.15	\$206.00
			Yes	f		247.20.
			7/21/2017			

MATERIAL: 6061-T6/T62/T6510/T6511 SEAMLESS TUBING  
AS PER WW-T-700/6 OR QQ-A-200/8 OR QQ-A-225/8 OR  
AMS 4080 OR AMS 4082 OR AMS 4083 OR ASTM B210 OR  
ASTM B241

recu 48 ft  
4x

Line Total: \$206.00

6	M304TR0.750W.049	304 RD Tube .750 x .049W	7/21/2017	60.00	\$2.10	\$126.00
			Yes	f		
			7/21/2017			

MATERIAL: AISI 304/316 SA SEAMLESS ROUND TUBING  
AS PER ASTM A213 OR AMSE SA213 OR ASTM A269

SPN 3x 7-20

Line Total: \$126.00

7	D6210P	304 Tube, Seamless 1/8 HARD	7/21/2017	40.00	\$11.50	\$460.00
			Yes	Each		
			7/21/2017			

AS PER DWG D6210 REV. A3  
B164142

MATERIAL 304 ROUND TUBING SEAMLESS, 1/8 HARD AS PER AMS 5566 OR AMS T-6845 OR MIL-T-6845

Note:

7/14/2017



Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
Tel: 613 632 9577  
Fax: 613 632 1053

## PURCHASE ORDER

Purchase Order ID **PO37040**

Purchase Order Date 7/13/2017

PO Print Date 7/14/2017

Page Number 4 of 4

**Order From :**

VU-TWM001

TW METALS  
PO BOX 933014  
ALTANTA, GA 31193-3014  
US

**Ship To :** DART AEROSPACE LTD

1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

**Contact Name**

**Vendor Phone** 585 768 5600

**Ship To Contact**

**Ship To Phone**

**Ship Via:** YRC COLLECT

**Ship Acct:**

**Buyer**

Chantal Lavoie

**Customer POID**

**Customer Tax #**

10127-2607

**Terms**

Net 30

**Currency**

USD

**FOB**

FCA - (Free Carrier)

**Line Total: \$460.00**

8 71401-45

PROCUREMENT  
QUALITY CLAUSES

7/21/2017

1.00

\$0.00

\$0.00

No

7/21/2017

**Procurement Quality Clauses**

A005 right of entry

A012 chemical and physical test report

A016 personnel qualification

A017 raw material identification (as applicable)

A026 certification of material conformance

A041 quality management system

A042 dart notification by supplier

A043 retention of quality documents

2017-7-20

**Line Total: \$0.00**

**PO Total: \$1,445.00**

**Note:** Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit [www.dartaerospace.com](http://www.dartaerospace.com) for further explanation.

Change Nbr: 4

Change Date: 7/14/2017